

REMARKS

Applicant is in receipt of the Office Action mailed June 15, 2006.

Claim Status

Claims 18-40 were pending in the application prior to entry of the present amendment, and remain pending.

Rejections Under Section 103

Claims 18-40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takeda (USPN 5559937) in view of Kipping et al. (USPN 6831660; hereinafter referred to as Kipping).

Applicant respectfully traverses the rejections of claims 18-40.

Claim 18 recites:

A method for comparing a pixel location against a plurality of windows, the method comprising:

passing the pixel location through a plurality of clip circuits, wherein the clip circuits are connected in a series to form a pipeline, and wherein each clip circuit is a segment of the pipeline;

computing a window result in each clip circuit for the pixel location, wherein each clip circuit is provided data defining a different one of the plurality of windows, wherein the window result comprises an indication of inclusion of the pixel location within the corresponding one of the plurality of windows;

outputting the pixel location and a window word from each clip circuit, wherein said outputting comprises, passing the pixel location and the window word directly to a next clip circuit in the series of clip circuits except for the last clip circuit in the series, and wherein the window word also comprises any previous window results; and

examining the window word output by the last clip circuit in the series of clip circuits to determine if the pixel is included in at least one of the windows.

Kipping and Takeda either singly or in combination do not teach or render obvious “computing a window result in each clip circuit for the pixel location, wherein each clip circuit is provided data defining a different one of the plurality of windows, wherein the window result comprises an indication of inclusion of the pixel location within the corresponding one of the plurality of windows”.

The Examiner states at page 3 and 4 that Takeda teaches two clipping circuits (420A and 420B) that are connected in series. However these two circuits shown in Fig. 6C (420A and 420B) do not have the capability of “computing a window result in each clip circuit for the pixel location....wherein the window result comprises an indication of inclusion of the pixel location within the corresponding one of the plurality of windows”. Takeda teaches that each of the circuits 420A and 420B are capable of testing against 3 planes (of the 6 planes that define a region) at col. 11, lines 25-32:

“An example of the above described processing by using a plurality of the clipping processing device is shown in FIG. 6C. In this case, for example, clipping processing by a first three clipping surfaces is performed by a **first-stage clipping processing device 420a**, and clipping processing by the remaining three surfaces and perspective projection conversion is performed by a second-stage clipping processing device 420b.”

However, Takeda clearly states that an inclusion decision requires testing against 6 planes at col. 2, line 62 through col. 3, line 25:

“Next, a type of image processing that is called clipping processing is performed. Clipping processing is image processing whereby image information that is outside the field of view of the player 302 (or outside the field of view of a window opening into the 3D space), in other words, **image information that is outside a region bounded by clipping surfaces 1, 2, 3, 4, 5, and 6 (hereinafter called a display region 20), is excluded**.....This is described below in more detail with reference to FIG. 19. Image information on an object outside the field of view of the player 302 (outside the display region 20), such as the 3D object 334 representing a billboard that has moved out of the field of view and backwards, is excluded. This exclusion processing is performed by **determining whether or not an object is within a display region for each of the clipping surfaces 1 to 6, then excluding the object only if it is outside all of those surfaces**.....However, as shown in FIG. 19, this clipping processing **has to be performed for all of the clipping surfaces 1 to 6**, and in practice the image processing regulates the speed of the entire circuitry of this 3D calculation section 316 the most.”

Clearly, the “first stage” circuit 420a and the “second stage” circuit 420b as taught by Takeda must be at least combined to correspond to the clip circuit of claim 18, since each circuit 420a or 420b only performs a portion of the computation required to determine inclusion within a region. Therefore, “first stage” circuit 420a alone or “second stage” circuit 420b alone as taught by Takeda are not capable of “computing a window result in each clip circuit for the pixel location....wherein the window result comprises an indication of inclusion of the pixel location within the corresponding one of the plurality of windows”.

Consequently, since at least the combination of circuits 420a and 420b is required to correspond to one clip circuit as presented in claim 18, it is obvious that Takeda does not teach “passing the pixel location through a plurality of clip circuits, wherein the clip circuits are connected in a series to form a pipeline, and wherein each clip circuit is a segment of the pipeline”. In addition, Kipping is silent on “the clip circuits are connected in a series to form a pipeline, and wherein each clip circuit is a segment of the pipeline”.

Furthermore, Kipping and Takeda either singly or in combination do not teach or render obvious “outputting the pixel location and a window word from each clip circuit, wherein said outputting comprises, passing the pixel location and the window word directly to a next clip circuit in the series of clip circuits”. In addition, Kipping and Takeda either singly or in combination do not teach or render obvious “the window word also comprises any previous window results”.

Therefore, Applicant submits that claim 18 and its dependent claims are non-obvious and patentably distinguished over Kipping and Takeda for at least the reasons given above. Applicant further submits that the independent claims 26 and 34 and their dependent claims are also non-obvious and patentably distinguished over Kipping and Takeda for at least the reasons given above in support of claim 18.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above-referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Meyertons, Hood, Kivlin, Kowert & Goetzel P.C., Deposit Account No. 50-1505/5181-84600/JCH.

Respectfully submitted,

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